

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| Applicant(s): Marugan et al. | |
| Application No.: 10/605,671 | |
| Filed: 10/16/2003 | Group Art Unit: 1712 |
| Title: Light Colored Polycarbonate Compositions and Methods | Examiner: Marc S. Zimmer |
| Attorney Docket No.: GEPL.P-077 | |

BRIEF FOR APPELLANT

This brief is filed in support of Applicants' Appeal from the rejection mailed March 1, 2006. Consideration of the application and reversal of the rejections are respectfully urged.

Real Party in Interest

The real party in interest is General Electric Company.

Related Appeals and Interferences

To Applicants' knowledge there are no related appeals or interferences.

Status of Claims

Claims 1-71 have been canceled. Claims 72-132 have been added to reinstate the subject matter of claims 1-61 as they were prior to Applicants' January 12, 2006 amendment. For reference new claim 72 is identical to original claim 1 and the remaining new claims 73-132 sequentially correspond to claims 2-61 as they were prior to the January 12, 2006 amendment. This amendment restored claims that had been previously rejected in the office action of October 18, 2005 and canceled in view of an indication of allowable subject matter when the Examiner subsequently withdrew the indication of allowability.

Claims 119-132 (previously claims 48-61) were allowed:

In his October 18, 2005 office action the Examiner indicated that claims 119-132 (previously claims 48-61) were allowed. In their January 12, 2006 response, Applicants canceled these claims in order to pursue them in a separate filing. However, in light of the Examiner's changing treatment of the balance of the claims of the application and in preparation for the present Appeal, Applicants reinstated these claim as claim 119-132 in their April 4, 2006 amendment. For all the reasons stated herein and for the reasons stated in the October 18, 2005 office action, Applicants submit that these claims are likewise still allowable.

Status of Amendments

The amendment canceling the balance of claims 1-71 and adding new claims 72-132 was filed on April 4, 2006 as a response to a non-final rejection. No amendment after final has been filed.

Summary of Claimed Subject Matter

The inventors have found that the addition of polycarbonate-siloxane copolymer to polycarbonate / titanium dioxide (i.e. a light colored pigment) compositions results in a reduction in the flame retardant properties of the three-component composition. *See* paragraph 21 of the present application. The present invention provides light colored compositions that avoid this reduction in product quality. *Id.*

Independent claim 72 (and dependent claims 73-101) relate to a composition having: (a) a bulk resin component having a polycarbonate resin (*see* paragraphs 24-31 of the specification); (b) a polycarbonate-siloxane copolymer in an amount sufficient to provide an amount of siloxane of at least 3% by weight of the total composition (*see* paragraphs 32-41 of the specification); and (c) a colorant composition comprising titanium dioxide having an organic coating, wherein the amount of titanium dioxide is from 1 to 2.5 % by weight of the total composition (*see* paragraphs 42-44 of the specification). *See* paragraphs 23-44 of the specification.

Independent claim 102 (and dependent claims 103-118) relate to molded or extruded articles that have flame retardant properties. *See* paragraph 53 of the specification. The articles have a wall thickness greater than a first thickness and are formed from a molding composition having: (a) a bulk resin component comprising a polycarbonate resin; (b) a polycarbonate-siloxane copolymer; and (c) a colorant composition comprising titanium dioxide, wherein the titanium dioxide has an organic coating, and the amount of polycarbonate-siloxane copolymer is selected such that the molding composition achieves a V0 UL fire rating at the first thickness. *See* paragraphs 53-54 of the specification.

Grounds of Rejection to be reviewed on Appeal

Claims 72-78, 83-88, 91-93, 100-107, 110-112 (previously claims 1-7, 12-17, 20-22, 29-36, and 39-41) are rejected under 103 (a) as obvious over Okumura et al. (US 5,451,632).

Claims 72-77, 80-81, 83-89, 91-93, 102, 104-108, and 110-112 (previously claims 1-6, 9-10, 12-18, 20-22, 31, 33-37, and 39-41) are rejected under 103 (a) as obvious over Okumura et al. (US 5,451,632) in view of Lo et al. (US 5,804,654) and/or Falcone (US Patent Application Publication no. 2002/0019466).

Argument

Preliminary Remarks:

On October 18, 2005, the Examiner issued an office action rejecting claims 72-78 (previously claims 1-7), 83-88 (previously claims 12-17), 91-93 (previously claims 20-22), 100-107 (previously claims 29-36), and 110-112 (now claims 39-41) under 103 (a) as obvious over Okumura (US 5,451,632). In that office action the Examiner indicated that certain dependent claims that contained additional limitations related to anti-drip agents would be allowable if re-written in independent format.

On January 12, 2006, without prejudice to their right to pursue canceled and/or amended subject matter, Applicants filed an amendment amending the claims to place them in a condition

for allowance in accordance with the Examiner's indication of allowable subject matter. On March 1, 2006 the Examiner issued another office action saying that he had reconsidered the amended claims and concluded that the previously-deemed-allowable dependent limitations could no longer be considered to represent a basis for patentability. *See* the March 1, 2006 office action at page 2. The Examiner instead indicated that a different set of dependent limitations relating to impact modifiers, *inter alia*, if incorporated into the already-amended base claims, would elevate the claims to a condition for allowance. *Id* at page 4.

In response to the Examiner's changing treatment of the claims and in preparation for filing the present Appeal, Applicants filed an amendment on April 4, 2006 canceling the balance of the claims and adding new claims 72-132 to reinstate the subject matter of the claims prior to their January 12, 2006 amendment. For reference new claim 72 is identical to original claim 1 and the remaining new claims 73-132 sequentially correspond to claims 2-61 as they were prior to the January 12, 2006 amendment.

In his March 1, 2006 office action, the Examiner maintained his original 103 rejections of the claims based on Okumura saying, "Okumura et al. is relevant for all the reasons provided in the previous correspondence" (i.e. the October 18, 2005 office action). The Examiner then cited new references Lo et al. (US 5,804,654) and/or Falcone et al. (US pub. 2002/0019466) to argue that the previously-deemed-allowable limitations relating to anti-drip agents were in fact obvious. *Id*. New independent claims 72 and 102 do not include the previously-deemed-allowable limitations relating to anti-drip agents nor do they contain the new limitations that the Examiner says are now patentable that relate to impact modifiers. Applicants respectfully request the Board to review and reverse the Examiner's rejections.

Claims 72-78, 83-88, 91-93, 100-107, 110-112 (i.e. previously claims 1-7, 12-17, 20-22, 29-36, and 39-41) are rejected under 103 (a) as obvious over Okumura et al. (US 5,451,632).

Independent claim 72 (previously claim 1) and dependent claims based thereon are not obvious

In his March 1, 2006 office action, the Examiner maintained his original 103 rejections of the claims based on Okumura saying, "Okumura et al. is relevant for all the reasons provided in the previous correspondence" (i.e. the October 18, 2005 office action). In his October 18, 2005 office action, the Examiner rejected claim 72 (previously claim 1) and dependent claims based thereon under 103 (a) as obvious over Okumura (US 5,451,632). Independent claim 72 (previously claim 1) reads:

72. A composition comprising:

- (a) a bulk resin component comprising a polycarbonate resin;
- (b) a polycarbonate-siloxane copolymer in an amount sufficient to provide an amount of siloxane of at least 3% by weight of the total composition; and
- (c) a colorant composition comprising titanium dioxide having an organic coating, wherein the amount of titanium dioxide is from 1 to 2.5 % by weight of the total composition.

The inventors have found that the addition of polycarbonate-siloxane copolymer to titanium dioxide / polycarbonate compositions **reduces** the flame retardant properties of the **3-component** composition. *See* paragraph 21 of the present application. The reduction in fire retardant properties is illustrated in the example section of the present application. *See* Example 1 (Table 3). It can be seen that in compositions 1-11 containing TiO₂, polycarbonate, and PC-PDMS copolymer (12% and 2.4% siloxane), none of the compositions had a reasonable expectation of meeting the V0 flame test standard. This is an exception that is contrary to the rule on which Okumura is based, that the addition of the (1) polycarbonate-polysiloxane copolymers to (2) polycarbonate **increases** the flame retardant properties of its articles. *See* paragraph 21 of the present application.

Claim 72 (previously claim 1) claims a **three-component** composition comprising a specific combination of its three components ((1)TiO₂, (2) polycarbonate, and (3) polycarbonate-polysiloxane copolymer). The combination of these components, in the amount specified in claim 72 (previously claim 1), actually **increases** the flame performance of molded articles made from the **three-component** composition. Okumura does not disclose these specific three-component mixtures nor does it recognize the problem associated with mixing a polycarbonate-polysiloxane copolymer, titanium dioxide, and polycarbonate (i.e. the reduction in flame performance).

The Examiner had originally maintained that Okumura was an anticipating reference against these claims until the Applicant's filed their August 5, 2005 response that suggested otherwise. *See* the December 27, 2004 and the May 9, 2005 office actions. *See also* the August 5, 2005 response. In response to Applicants' August 5th arguments, the Examiner stated that he, has reconsidered the patentability of the claims in view of Applicants' arguments and the teachings of the reference and concluded that, in fact, the most reasonable rejection of these claims is one that is made under 35 U.S.C. 103. **Okumura, it is acknowledged, does not expressly disclose blends of polycarbonate, polycarbonate-polysiloxane copolymer, and titanium dioxide, and in the amounts specified by the claims.** *See* page 2 of the October 18, 2005 office action. *Reiterated* at page 2 of the March 1, 2006 office action.

The Examiner is quite correct to state that Okumura does not expressly disclose blends of polycarbonate, polycarbonate-polysiloxane copolymer, and titanium dioxide. Further, the Examiner is correct to state that Okumura fails to expressly disclose these compounds in the amounts specified by claim 72 (previously claim 1). Yet the Examiner maintains his rejection of claim 1 and dependent claims based thereon as obvious under 103 (a).

The Examiner states that the present limitations are obvious because Okumura discloses three-component compositions and therefore must disclose the compositions and articles of the present invention. The Examiner states that the basis for rejecting the present claims under 103,

relies on (i) Okumura's **cursory** mention in column 15, lines 40-44 that mixtures of polysiloxane-polycarbonate and the various embodiments of (B), which include polycarbonate homopolymer and titanium dioxide pigment, may also be formed, and (ii) the reasonable assumption that, in those cases where all three of polycarbonate, polycarbonate-polysiloxane copolymer, and titanium dioxide are combined, it is desirable to use the same amounts that are prescribed by the claims. *See* page 2 of the October 18, 2005. *Reiterated* at page 2 of the March 1, 2006 office action.

The Examiner's reasoning is flawed and his use of the term **cursory** when citing column 15 lines 40-44 illustrates this point. Okumura at column 15 lines 40-44 actually reads,

The molded articles of PC-PDMS copolymer is also obtained by preparing a resin composition by using PC-PDMS as the component (A) and various kinds of resin, inorganic filler **or** pigment as the component (B) and then molding the resin composition.

The Examiner apparently suggests that the term **or** as it is used in column 15 line 43 means that molded articles can have PC-PDMS component (A) with any combination of two materials selected from materials (B) (i.e. resin, inorganic filler, and pigment) to provide the three-component compositions of the present invention.

The Examiner's reading of the cited section is entirely inconsistent with the balance of Okumura. Nowhere can one find any mention of a **three-component** mixture comprising a PC-PDMS copolymer, a pigment, **and** a resin. Further and even more specifically nowhere can one find mention of a **three-component** mixture having a polycarbonate-polysiloxane copolymer, titanium dioxide having an organic coating, and polycarbonate. Not even in the example section, can one find the **three-component** mixture, let alone the **three-component** mixture of the material and in the amounts specified by the claims of the present application.

The only mention of using a pigment in the examples of Okumura comes in examples 1D to 22D found in Table 1D starting at column 30. These examples illustrate only **two-component** compositions of (1) PC-PDMS and (2) a pigment. The comparative examples found in this section illustrate only **two-component** compositions having (1) a polycarbonate resin and (2) a

pigment. These **two-component** mixtures simply do not disclose nor do they suggest a **three-component** mixture. Further, the examples and the balance of the Okumura's disclosure fails to recognize the problems associated with **three-component** mixtures (i.e. the reduction in flame retardant properties of such) and the corresponding solution provided by the present invention.

Lastly, the organic coating of the TiO_2 is an important limitation to the present claims. See paragraph 42 of the specification. It is believed the fire retardant properties of the three-component mixture correlates with the distribution of the TiO_2 within the mixture. *Id.* TiO_2 pigments that do not have such a coating are believed to aggregate within the mixture. An organic coating, for example an organo-silicone coating, is required by the claims and is applied to the TiO_2 pigments to reduce their surface reactivity such that they are more easily dispersed within the mixture. *Id.* No mention in Okumura can be found of the organic coating as claimed.

Rejected dependant claim 73 (previously claim 2) and therefore dependent claims 74-101 (previously claims 3-30) state that "the bulk resin component make up at least 50% of the composition" and are likewise not obvious:

As stated above there is no teaching in Okumura of the claimed three-component mixture nor the claimed three-component mixture in the amounts as required in claim 72 (previously claim 1). Claim 73 (previously claim 2) and therefore dependent claims 74-101 (previously claims 3-30) require that the bulk resin be at least 50% of the composition. This means that necessarily the amount of polycarbonate-siloxane copolymer is less than 50%. The PC-siloxane copolymer, used as a starting material for mixing with PC in the example section of Okumura, with the highest amount of siloxane is in example 2A (i.e. 3.8% PDMS). If this PC-siloxane copolymer were used in a composition containing 50% bulk resin and 50% copolymer, the amount of siloxane would be 1.9% which is outside the scope of the present claims.

Independent claim 102 (previously claim 31) and dependent claims based thereon are not obvious:

In his October 18, 2005 office action, the Examiner rejected claim 102 (previously claim

31) and dependent claims based thereon under 103 (a) as obvious over Okumura (US 5,451,632).

Independent claim 102 (previously claim 31) reads:

102. An article, having a wall thickness greater than a first thickness, said article being formed from a molding composition comprising:

(a) a bulk resin component comprising a polycarbonate resin;

(b) a polycarbonate-siloxane copolymer; and

(c) a colorant composition comprising titanium dioxide, wherein the titanium dioxide has an organic coating, and the amount of polycarbonate-siloxane copolymer is selected such that molding composition achieves a V0 UL fire rating at the first thickness.

The present claim claims a solution to the presently recognized problem of adding a polycarbonate-polysiloxane copolymer to a composition of polycarbonate and titanium dioxide. As detailed herein and throughout the specification, polycarbonate-polysiloxane copolymer, when added to a polycarbonate containing titanium dioxide, **reduces** the flame retardant properties of articles made from the three-component mixture.

Okumura's disclosure does not recognize, arrive at, nor remotely suggest the presently recognized problem associated with adding a PC-siloxane copolymer to a mixture of titanium dioxide and PC. Further, Okumura does not suggest nor does it disclose the amounts of these three components required for an article formed a composition of the same **to achieve a V0 UL fire rating at its first thickness** as required by claim 102 (previously claim 31) and the rest of the rejected claims dependent thereon.

The limitation relating to the composition achieving a **VO UL fire rating at the articles first thickness** is important. *See* paragraph [0053] of the specification. In assessing flame-retardance of an article it is particularly relevant to consider the point of minimum wall thickness, since this is the region of the article that is most flammable. *Id.* In the present claims, the minimum wall thickness of the article is referred to as the "first thickness" and the amount of polycarbonate-siloxane copolymer in the composition is selected such that a VO UL fire rating of

the composition is achieved at this minimum thickness. *Id.*

The desired amount of polycarbonate-siloxane copolymer depends on the minimum thickness of the article, the amount of polycarbonate, the amount of the titanium dioxide, and the type of coating applied to the titanium dioxide. For example, Tables 4 and 5 of the present application show the results when the amount of copolymer is increased, using an **organic coated** TiO₂. As shown in examples 13 and 20, adequate performance can be achieved using either lower amounts of **organic coated** TiO₂ or higher amounts of siloxane (4%). Example 3 uses copolymers containing 18% copolymer (3.6% siloxane) or 17.8% copolymer (3.56% siloxane) and two types of **organic coated** TiO₂. These samples are within the scope of the present invention and consistently achieved over or near 90% likelihood of passing the V0 test. Exemplary amounts of polycarbonate-siloxane copolymer relative to the wall thickness and titanium dioxide are also given in paragraph [0053] of the specification.

There is no teaching in Okumura of the claimed three-component mixture nor any teaching directed to the amounts of each of the three-components that is required to achieve a VO UL fire rating of an article at its minimum thickness.

Rejected dependant claim 103 (previously claim 32) and dependent claims 104-118 (previously claims 33-47) state that “the bulk resin component make up at least 50% of the composition” and are not obvious

As stated above there is no teaching in Okumura of the claimed three-component mixture required to achieve a VO UL fire rating at its minimum thickness. Claim 103 (previously claim 32) and therefore rejected dependent claims 104-108 and 110-112 (i.e. previously claims 33-37 and 39-41) require that the bulk resin be at least 50% of the composition meaning that the amount of polycarbonate-siloxane copolymer is necessarily less than 50% of the mixture. Another limitation that can be found nowhere in the cited reference.

Rejected dependant claim 104 (previously claim 33) defines that “the first thickness is 1.6 mm, and the polycarbonate-siloxane copolymer is present in an amount sufficient to provide an amount of siloxane at least 3% by weight of the total composition” and is likewise not obvious:

The PC-siloxane copolymer, used as a starting material for mixing with PC in the example section of Okumura, with the highest amount of siloxane is in example 2A (i.e. 3.8% PDMS). If this PC-siloxane copolymer were used in a composition containing 50% copolymer, the amount of siloxane would be 1.9% which is outside the scope of the present claim. Further, there is no mention in Okumura of achieving the fire rating at a minimum thickness of 1.6 mm of the molded article.

Claims 72-77, 80-81, 83-89, 91-93, 102, 104-108, and 110-112 (previously claims 1-6, 9-10, 12-18, 20-22, 31, 33-37, and 39-41) are rejected under 103 (a) as obvious over Okumura et al. (US 5,451,632) in view of Lo et al. (US 5,804,654) and/or Falcone (US Patent Application Publication no. 2002/0019466).

As stated above, on March 1, 2006 the Examiner issued an office action withdrawing his October 18, 2005 indication of allowable subject matter. He instead rejected the claims as obvious over Okumura in view of Lo and Falcone. Lo and Falcone were cited for providing the previously-deemed-allowable limitations related to the anti-drip agent. Applicants resubmit all arguments outlined above with respect to the shortcomings of Okumura and incorporate them into this section by reference thereto.

The Lo and Falcone references cited by the Examiner fail to plug the holes of Okumura:

The secondary references cited by the Examiner (i.e. Lo and Falcone) were cited with respect to disclosing the previously-deemed-allowable anti-drip limitations. The secondary references fail to provide the above-mentioned deficiencies of Okumura. Therefore, the obviousness rejections to independent claims 72 and 102 (previously claims 1 and 31) and to dependent claims based thereon should be overturned.

Conclusion

For all of the foregoing reasons, Applicants submit that the 103 (a) rejections should be reversed and that all claims (i.e. 72-132) of this application are in form for allowance. Such action is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Marina T. Larson', is written over a horizontal line.

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Claims Appendix

1. - 71. (Canceled)

72. (Previously rejected claim 1) A composition comprising:

(a) a bulk resin component comprising a polycarbonate resin;

(b) a polycarbonate-siloxane copolymer in an amount sufficient to provide an amount of siloxane of at least 3% by weight of the total composition; and

(c) a colorant composition comprising titanium dioxide having an organic coating, wherein the amount of titanium dioxide is from 1 to 2.5 % by weight of the total composition.

73. (Rejected, previously claim 2) The composition of claim 72, wherein the bulk resin component makes up at least 50% of the composition.

74. (Rejected, previously claim 3) The composition of claim 73, wherein the amount of titanium dioxide is from 1 to 1.5% by weight of the total composition.

75. (Rejected, previously claim 4) The composition of claim 74, further comprising a rubbery impact modifier.

76. (Rejected, previously claim 5) The composition of claim 75, wherein the rubbery impact modifier is selected from the group consisting of acrylic rubbers, ASA rubbers, diene rubbers, organosiloxane rubbers, EPDM rubbers, styrene-butadiene-styrene (SBS) or styrene-ethylene-butadiene-styrene (SEBS) rubbers, ABS rubbers, MBS rubbers and glycidyl ester impact modifiers, and mixtures thereof.

77. (Rejected, previously claim 6) The composition of claim 76, wherein the rubbery impact

modifier is present in an amount of from 1 to 30% by weight.

78. (Rejected, previously claim 7) The composition of claim 77, further comprising an antidrip agent.

79. (Rejected, previously claim 8) The composition of claim 78, wherein the antidrip agent is styrene-acrylonitrile copolymer encapsulated polytetrafluoroethylene.

80. (Rejected, previously claim 9) The composition of claim 78, further comprising an effective flame-retarding amount of flame retardant.

81. (Rejected, previously claim 10) The composition of claim 80, wherein the flame retardant is a phosphate flame retardant.

82. (Rejected, previously claim 11) The composition of claim 81, wherein the phosphate flame retardant is bis-phenol A tetraphenyl diphosphate.

83. (Rejected, previously claim 12) The composition of claim 80, wherein the flame retardant is a sulfonate.

84. (Rejected, previously claim 13) The composition of claim 83, wherein the sulfonate is a perfluoroalkane sulfonate.

85. (Rejected, previously claim 14) The composition of claim 84, wherein the perfluoroalkane sulfonate is potassium perfluorobutane sulfonate.

86. (Rejected, previously claim 15) The composition of claim 74, wherein the organic coating comprises an organosiloxane.

87. (Rejected, previously claim 16) The composition of claim 86, wherein the amount of titanium dioxide is from 1 to 1.5% by weight of the total composition.

88. (Rejected, previously claim 17) The composition of claim 87, further comprising an effective flame-retarding amount of flame retardant.

89. (Rejected, previously claim 18) The composition of claim 88, wherein the flame retardant is a phosphate flame retardant.

90. (Rejected, previously claim 19) The composition of claim 89, wherein the phosphate flame retardant is bis-phenol A tetraphenyl diphosphate.

91. (Rejected, previously claim 20) The composition of claim 88, wherein the flame retardant is a sulfonate.

92. (Rejected, previously claim 21) The composition of claim 91, wherein the sulfonate is a perfluoroalkane sulfonate.

93. (Rejected, previously claim 22) The composition of claim 92, wherein the perfluoroalkane sulfonate is potassium perfluorobutane sulfonate.

94. (Rejected, previously claim 23) The composition of claim 86, wherein the organic coating comprises a trimethylolpropanol.

95. (Rejected, previously claim 24) The composition of claim 94, wherein the bulk component further comprises a rubbery impact modifier.

96. (Rejected, previously claim 25) The composition of claim 95, wherein the rubbery impact modifier is selected from the group consisting of acrylic rubbers, ASA rubbers, diene rubbers,

organosiloxane rubbers, EPDM rubbers, styrene-butadiene-styrene (SBS) or styrene-ethylene-butadiene-styrene (SEBS) rubbers, ABS rubbers, MBS rubbers and glycidyl ester impact modifiers, and mixtures thereof.

97. (Rejected, previously claim 26) The composition of claim 94, further comprising an effective flame-retarding amount of flame retardant.

98. (Rejected, previously claim 27) The composition of claim 73, wherein the organic coating comprises trimethylolpropanol.

99. (Rejected, previously claim 28) The composition of claim 98, wherein the amount of titanium dioxide is from 1 to 1.5% by weight of the total composition.

100. (Rejected, previously claim 29) The composition of claim 73, wherein the bulk component further comprises an engineering thermoplastic.

101. (Rejected, previously claim 30) The composition of claim 100, wherein the engineering thermoplastic is a styrene acrylonitrile copolymer or polymethyl(methacrylate).

102. (Rejected, previously claim 31) An article, having a wall thickness greater than a first thickness, said article being formed from a molding composition comprising:

(a) a bulk resin component comprising a polycarbonate resin;

(b) a polycarbonate-siloxane copolymer; and

(c) a colorant composition comprising titanium dioxide, wherein the titanium dioxide has an organic coating, and the amount of polycarbonate-siloxane copolymer is selected such that molding composition achieves a V0 UL fire rating at the first thickness.

103. (Rejected, previously claim 32) The article of claim 102, wherein the bulk resin component makes up at least 50% of the molding composition.

104. (Rejected, previously claim 33) The article of claim 103, wherein the first thickness is 1.6 mm, and the polycarbonate-siloxane copolymer is present in an amount sufficient to provide an amount of siloxane of at least 3% by weight of the total composition.

105. (Rejected, previously claim 34) The article of claim 103, wherein the organic coating comprises an organosiloxane.

106. (Rejected, previously claim 35) The article of claim 105, wherein the amount of titanium dioxide is from 1 to 1.5% by weight of the total composition.

107. (Rejected, previously claim 36) The article of claim 106, further comprising an effective flame-retarding amount of flame retardant.

108. (Rejected, previously claim 37) The article of claim 107, wherein the flame retardant is a phosphate flame retardant.

109. (Rejected, previously claim 38) The article of claim 108, wherein the phosphate flame retardant is bis-phenol A tetraphenyl diphosphate.

110. (Rejected, previously claim 39) The article of claim 107, wherein the flame retardant is a sulfonate.

111. (Rejected, previously claim 40) The article of claim 110, wherein the sulfonate is a perfluoroalkane sulfonate.

112. (Rejected, previously claim 41) The article of claim 111, wherein the perfluoroalkane

sulfonate is potassium perfluorobutane sulfonate.

113. (Rejected, previously claim 42) The article of claim 105, wherein the organic coating comprises trimethylolpropanol.

114. (Rejected, previously claim 43) The article of claim 113, wherein the bulk component further comprises a rubbery impact modifier.

115. (Rejected, previously claim 44) The article of claim 114, wherein the rubbery impact modifier is selected from the group consisting of acrylic rubbers, ASA rubbers, diene rubbers, organosiloxane rubbers, EPDM rubbers, styrene-butadiene-styrene (SBS) or styrene-ethylene-butadiene-styrene (SEBS) rubbers, ABS rubbers, MBS rubbers and glycidyl ester impact modifiers, and mixtures thereof.

116. (Rejected, previously claim 45) The article of claim 113, further comprising an effective flame-retarding amount of flame retardant.

117. (Rejected, previously claim 46) The article of claim 103, wherein the organic coating comprises trimethylolpropanol.

118. (Rejected, previously claim 47) The article of claim 117, wherein the first thickness is 1.6 mm, and the polycarbonate-siloxane copolymer is present in an amount sufficient to provide an amount of siloxane of at least 3% by weight of the total composition.

119. (Allowed, previously claim 48) A method for forming a light colored, flame retardant polycarbonate article comprising the steps of

forming a blend by combining:

(a) a bulk resin component comprising a polycarbonate resin;

(b) a polycarbonate-siloxane copolymer in an amount sufficient to provide an

amount of siloxane of at least 3% by weight of the total composition; and

(c) a colorant composition comprising titanium dioxide having an organic coating comprising an organic polysiloxane, trimethylolpropanol, or mixtures thereof, wherein the amount of titanium dioxide is from 1 to 2.0 % by weight of the total composition; and

forming an article from the blend.

120. (Allowed, previously claim 49) The method of claim 119, wherein the bulk resin component makes up at least 50% of the blend.

121. (Allowed, previously claim 50) The method of claim 120, wherein the amount of titanium dioxide is from 1 to 1.5% by weight of the total composition.

122. (Allowed, previously claim 51) The method of claim 120, wherein the bulk component further comprises a rubbery impact modifier selected from the group consisting of acrylic rubbers, ASA rubbers, diene rubbers, organosiloxane rubbers, EPDM rubbers, styrene-butadiene-styrene (SBS) or styrene-ethylene-butadiene-styrene (SEBS) rubbers, ABS rubbers, MBS rubbers and glycidyl ester impact modifiers, and mixtures thereof.

123. (Allowed, previously claim 52) The method of claim 122, wherein the rubbery impact modifier is present in an amount of from 1 to 30% by weight.

124. (Allowed, previously claim 53) The method of claim 120, further comprising an effective flame-retarding amount of flame retardant.

125. (Allowed, previously claim 54) The method of claim 124, wherein the flame retardant is a phosphate flame retardant.

126. (Allowed, previously claim 55) The method of claim 125, wherein the phosphate flame

retardant is bis-phenol A tetraphenyl diphosphate.

127. (Allowed, previously claim 56) The method of claim 120, wherein the flame retardant is a sulfonate.

128. (Allowed, previously claim 57) The method of claim 127, wherein the sulfonate is a perfluoroalkane sulfonate.

129. (Allowed, previously claim 58) The method of claim 128, wherein the perfluoroalkane sulfonate is potassium perfluorobutane sulfonate.

130. (Allowed, previously claim 59) The method of claim 120, wherein the bulk component further comprises an engineering thermoplastic.

131. (Allowed, previously claim 60) The method of claim 130, wherein the engineering thermoplastic is a styrene acrylonitrile copolymer or polymethyl(methacrylate).

132. (Allowed, previously claim 61) A method for enhancing the flame retardance of a light colored composition comprising a bulk resin component comprising polycarbonate; a polycarbonate-siloxane copolymer; and a colorant composition comprising titanium dioxide, said method comprising the steps of

(a) including the polycarbonate-siloxane copolymer in the composition in an amount sufficient to provide an amount of siloxane of at least 3% by weight of the total composition; and

(b) selecting as the titanium dioxide a titanium dioxide having an organic coating comprising a polyorganosiloxane, trimethylolpropanol, or mixtures thereof.

Evidence Appendix

None

Related Proceedings Appendix

None